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ABSTRACT

The impact of hiring temporary workers during the tight labor markets of the 1990s was examined through case studies of six hospitals and five automobile plants. The hospitals varied in size from 450 to 6,000 employees. The auto suppliers included unionized and nonunionized small and large companies. The case studies included extensive interviews with human resource directors/managers and analysis of data on employment levels, use of temporary workers, and wage and nonwage costs of temporary and permanent workers by occupation. The data obtained for high-skilled occupations supported the view that employers paid substantially more to agency help to avoid raising wages for their regular workers and to fill vacancies while recruiting workers for permanent positions. The evidence for low-skilled occupations suggested that temporary help agencies facilitated the use of more "risky" workers by lowering their wages and benefits and the costs of firing them. The use of temporary agencies in both high- and low-skilled occupations may have contributed to the stagnant wage growth and low unemployment observed in the 1990s by reducing the pressure on companies to raise wages for existing employees. (Contains 13 references. Information about the establishment-level data collected in the case studies is appended.) (MN)

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FOR EMPLOYMENT RESEARCH

The Role of Temporary Help Employment in Tight Labor Markets

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STAFF WORKING PAPERS

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***The Role of Temporary Help Employment
in Tight Labor Markets***

Upjohn Institute Staff Working Paper No. 01-73

by

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The Role of Temporary Help Employment in Tight Labor Markets

Abstract

This paper examines the reasons why employers used and even increased their use of temporary help agencies during the tight labor markets of the 1990s. Based on case study evidence from the hospital and auto supply industries, we evaluate various hypotheses for this phenomenon. In high-skilled occupations, our results are consistent with the view that employers paid substantially more to agency help to avoid raising wages for their regular workers and to fill vacancies while they recruited workers for permanent positions. In low-skilled occupations, our evidence suggests that temporary help agencies facilitated the use of more "risky" workers by lowering their wages and benefits and the costs of firing them. The use of agency temporaries in both high- and low-skilled occupations reduced the pressure on companies to raise wages for existing employees, and thereby may have contributed to the stagnant wage growth and low unemployment observed in the 1990s.

Temporary agency employment expanded steadily during the 1990s. According to Bureau of Labor Statistics establishment data, employment in help supply services, which is comprised primarily of temporary help agencies, increased from 1.2 percent of paid employment in 1990 to 2.6 percent in 2000. The share in temporary agency employment grew throughout this period of strong economic expansion and very low unemployment despite the fact that the overwhelming majority of temporary agency workers express a desire for regular, permanent jobs (Cohany 1998). The high preference for regular employment among agency temporaries has led many to conclude that the continued growth of the share in temporary employment in the 1990s is most likely driven by employer demand. In this paper, we provide insights into why employers heavily rely on temporary agency workers in tight labor markets based on evidence from two industries: hospitals and auto supply manufacturers.

The fact that the share in temporary agency employment moves procyclically has long been observed. The most common explanation for this pattern is that companies use agency temporaries to buffer core workers during downturns (Mangum, Mayall, and Nelson 1985; Abraham 1990). Because agency temporaries are the first to be laid off in a recession, we would expect the share in temporary employment to rise during expansions and fall during recessions.

Nevertheless, it is hard to understand why, in the aggregate, the share in temporary employment would continue to grow strongly after almost a decade of expansion if firms were simply using temporaries to buffer core workers against an anticipated downturn. Indeed, evidence from a nationwide employer survey, reported in Houseman (1997, 2001), suggests the importance of other factors, including difficulty in finding qualified workers on their own and the desire to screen workers for permanent positions. The hypothesis that, in tight labor markets, companies are filling vacancies with temporary agency workers while they recruit employees and are sometimes recruiting employees from the ranks of agency temporaries is strongly supported by our case study evidence.

One theme developed in this paper is that the use of agency temporaries in tight labor markets relieved pressure on companies to raise wages of regular employees. During the 1990s, the U.S. economy experienced low wage growth coupled with extremely low unemployment rates.¹ While agency temporary employment still accounts for a relatively small share of paid employment, the growth in temporary employment accounted for 10 percent of net employment growth in the economy during the 1990s. If workers face costs in switching employers and internal labor market rules characterize wage setting for workers with some tenure on the job, then market forces primarily influence wage levels by affecting the wages of new entrants. Thus, it is not unreasonable to hypothesize some connection between the rapid growth in temporary agency employment, slow aggregate wage growth, and low unemployment. Indeed, Katz and Krueger (1999) present evidence that states with a greater presence of temporary agency employment experienced lower wage growth in the 1990s and that the growth in temporary employment may have accounted for up to a 0.4-percentage-point reduction in the unemployment rate. A major contribution of this paper is to improve our understanding of the mechanisms by which temporary agency use may lead to lower overall wage growth and unemployment.

WHY EMPLOYERS USE AGENCY TEMPORARIES IN TIGHT LABOR MARKETS: SOME HYPOTHESES

Previous research has addressed why companies, in general, use temporary agency workers (Abraham 1990; Davis-Blake and Uzzi 1993; Houseman 2001; Kalleberg, Reynolds, and Marsden 1999; Peck and Theodore 1998; Autor forthcoming). The question raised in this paper is why companies use and, on average, increased their use of temporary

¹ See Katz and Krueger (1999) for a documentation of this phenomenon and some hypotheses about its causes.

agency workers in the very tight labor markets characterizing the U.S. economy in recent years.

One hypothesis is that companies are likely to have more temporary work when the economy is booming than when it is in recession. Companies are more likely to experience an increase in their workload that, at least, is perceived as temporary during an expansion, thus increasing their demand for temporary workers. Similarly, companies are more likely to take on special projects requiring temporary workers during an expansion. This factor is akin to a scale effect: the greater quantity of temporary work will result in greater employer demand for all temporary workers, including agency temporaries.

A second hypothesis is that as labor markets tighten, companies are more inclined to use temporary help agencies to fill temporary positions, rather than recruit temporary workers directly. This substitution effect would occur if the cost of agency temporaries declines relative to that of direct-hire temporaries when labor markets tighten.

A third hypothesis is that companies have more difficulty finding qualified workers to fill regular positions when labor markets tighten, and they use temporary help workers to fill those vacancies until permanent hires are made. Companies may even recruit permanent workers from the ranks of the agency temporaries. Note that in this case, unlike the previous two cases, the work is not temporary in nature. This substitution effect would result if the cost of agency temporaries relative to that of direct-hire recruits declines when labor markets tighten.

There are various reasons why the cost of agency temporaries relative to that of direct-hire temporaries or direct-hire recruits may decline with a tightening of labor markets. Temporary help agencies may be more efficient than companies at recruiting temporary and permanent workers, and their relative efficiency may increase as labor markets tighten. When labor markets are slack, it is relatively easy for companies to form in-house, on-call worker pools or to hire temporaries directly. When labor markets tighten, the supply of workers willing to accept temporary work

or unpredictable hours shrinks at any given wage. Because temporary help agencies pool jobs across companies, they can offer workers more steady employment, or for those who desire temporary work, temp agencies are better able to offer them employment when they want to work. Similarly, temporary agencies likely enjoy scale economies in recruiting and screening workers for permanent positions, especially in tight labor markets when companies have fewer unsolicited, qualified job applicants and receive fewer qualified applicants for any recruiting expenditure.

In addition, we argue that the use of temporary agency workers to fill temporary positions or to fill vacancies while companies recruit permanent workers is often advantageous to companies, in part because companies may discriminate between temporary and direct-hire workers in the compensation offered. However, the direction of the wage discrimination along with the precise mechanisms by which temporary agencies are able to recruit workers and companies are able to save on compensation costs will depend on the labor market. We outline two scenarios below.

- *Agency temporaries receive higher wages than direct-hire employees.*

Suppose, for simplicity, that the workers an employer wishes to hire for a particular position are homogeneous in quality. When labor markets are slack, employers face an elastic supply of labor for these workers, but when labor markets tighten, they face an upward sloping labor supply curve.² In tight labor markets and with the standard assumption that

² In other words, we assume that individual employers are large enough to affect wages in local labor markets and thus face an upward sloping labor supply curve when labor markets are tight. In slack markets, individual employers face an elastic supply of labor, not because they are small relative to size of the local labor market, but rather because wages do not clear and there is involuntary unemployment. Possible causes of involuntary unemployment have been extensively discussed in the economics literature and are beyond the scope of this paper.

workers receive the same wage (i.e., no wage discrimination), a firm's labor costs may be characterized as

$$C = w(L)L$$

$$dC/dL = w[1 + 1/\eta]$$

where w is the wage, L is the number of workers hired, and η is the elasticity of labor supply. The marginal cost of labor is a decreasing function of the elasticity of labor. In slack labor markets, labor supply is quite elastic and, in the limit, $1/\eta$ goes to zero and the marginal cost of hiring more labor is just the wage. As labor markets tighten, η falls and the marginal cost of hiring an additional worker rises. In figure 1, the marginal cost of additional labor is characterized by areas A and B.

A cost-minimizing employer would prefer to wage-discriminate, offering higher wages only to new workers. With wage discrimination, the marginal cost of hiring additional labor is represented by area B alone in figure 1. It is generally assumed that employers do not practice wage discrimination either because existing workers are fully mobile and would quit to take a new job (or to be rehired as a new worker by the same employer) if the employer offered higher wages to new employees, or because such a two-tiered wage system would be seen as unfair by workers and result in serious morale and productivity problems.

However, the first assumption that workers are perfectly mobile does not hold in practice: many existing workers likely face sizable costs in switching jobs. Moreover, the use of temporary agency employees for new hires may make it less costly for employers to practice such wage discrimination. For instance, existing employees may develop a strong preference for the status quo and be more reluctant to quit their job to be rehired, at higher pay, if the new job is with a temporary agency rather than with the actual employer, and if their assignments with the agency are perceived as less certain. Because of information costs, existing employees also may be less likely to learn that temporary workers, who are paid by the temporary agency, earn more money than direct hires. Additionally, it is likely that any adverse morale and productivity effects

are less if new workers, who make more money than old workers, are hired through temporary help agencies than if they are hired directly. These adverse morale and productivity effects might be less if regular employees are less knowledgeable about temporary agency workers' wage levels than they are about other employees' wage levels. Alternatively, because the client company does not directly set the wages of the temporary workers, employees may not fully blame their employers for the wage differentials.

Formally, suppose that the cost of hiring an additional worker and paying her more than existing workers is K if the worker is hired directly, but only k , $k < K$, if the worker is hired through a third party. Then, if the firm chooses to practice wage discrimination, it will only do so through a third party, like a temporary agency, and it will only practice wage discrimination in new hiring if $w/\eta > k$. In other words, it will only choose to wage-discriminate if the additional payments to existing workers (area A in figure 1) exceed the marginal cost of wage discrimination, k . Thus, as labor supply becomes less elastic and η falls, it becomes more attractive for the employer to practice wage discrimination through a temporary agency.

The use of temporary agency workers may also make it possible for employers to discriminate in the composition of the compensation package offered in ways that would be illegal or impractical if all workers were employees. For instance, nondiscrimination clauses in the Employee Retirement Income Security Act (ERISA) and the Internal Revenue Service tax code make it difficult for employers to offer different benefits packages to different groups of full-time employees. Temporary help agencies, which typically offer much lower benefits levels than client firms, likely attract some workers who place a low value on company-provided benefits.³ Therefore, if the cash component of compensation in

³ For instance, workers with health insurance coverage from another family member may place little or no value on health insurance benefits offered by their employer. See Houseman (2001) for evidence on the

temporary jobs is higher than the cash component in regular jobs, it is possible that temporary agency workers place a higher value on the compensation from the temporary agency than the compensation they would earn in a regular employment position, even if the total cost of providing that compensation package is the same or less. Thus, in some cases, the use of temporary help agencies allows efficient sorting of workers by compensation preference and potentially benefits workers and employers alike.

Thus far, the choice between regular and temporary workers has been posed as a one-time decision by employers seeking to increase their workforces. One might more realistically think of the process as a dynamic one in which firms temporarily use higher-priced temporary labor in order to buy additional time to fill permanent vacancies. Specifically, suppose the average time it takes to fill a vacancy varies inversely with the wage package and positively with the tightness of the labor market. Thus, at any given wage rate, the number of unfilled vacancies will increase with labor market tightness.⁴ Employers may quickly recruit high-priced temporary agency labor to fill vacancies, buying time to recruit permanent workers at lower wages.⁵ In this dynamic context, the essential theoretical insight is the same as in the static model discussed above: it is advantageous for employers to hire

incidence of benefits among temporary agency vs. regular workers.

⁴ The assumption that vacancies and thus employment levels are a function of the wage rate has been used in a number of theoretical models. See Card and Krueger (1995), especially Chapter 11, and the citations therein.

⁵ Note that even if temporary workers are paid more, some workers may still prefer permanent positions. This is because temporary and permanent positions are not identical—the latter is associated with more job security and possibly more benefits. Thus, for some workers, the non-compensation aspects of a permanent job outweigh the lower compensation, or their personal valuation of the total compensation package may be higher for the permanent job.

temporary workers in tight labor markets because they may discriminate in the wages they offer temporary and permanent workers and thus avoid raising wages for existing workers.

- *Agency temporaries may receive lower wages than direct-hire employees.*

Consider now a labor market in which there are two types of workers: L_1 are "good" workers, who are certain to work out; L_2 are "risky" workers, some of whom, with probability ρ , will prove to be "good" workers, $0 < \rho < 1$. Risky workers are those who do not work out, quit, or are fired, with a cost f to the employer. With two potential inputs, cost-minimizing employers will minimize labor costs, C ,

$$C = w_1(L_1)L_1 + [w_2 + (1-\rho)f]L_2,$$

subject to a production constraint:

$$Y = L_1 + \rho L_2.$$

It is assumed that $w_1 \geq w_2$ and that in tight labor markets employers face an upward sloping labor supply curve for type one, "good" workers, but that even in a booming economy, labor supply for type two, "risky" workers is elastic. In other words, even in tight labor markets, there is substantial unemployment among risky workers; w_2 remains above market clearing levels because of minimum wages, social insurance programs, or other factors.⁶ When hiring, employers will select a good or a risky worker depending upon the cost per unit of output for each type:

$$[w_2 + (1-\rho)f]/\rho \geq w_1(1 + 1/\eta_1).$$

In slack labor markets, when η_1 is large, employers may choose to only hire good workers.⁷ As labor markets tighten and η_1 falls, the marginal

⁶ This assumption is arguably an accurate description of low-skilled disadvantaged workers who experience high levels of unemployment even in strong economies.

⁷ In slack labor markets, there is involuntary unemployment among both labor types. Although we do not discuss how w_1 and w_2 are set, we assume these wages become more compressed in slack labor markets, perhaps because of minimum wages or other social safety nets, and thus

cost of hiring good workers rises, and employers may find it cost-effective to hire risky workers.

Temporary help agencies potentially reduce the costs to employers of hiring risky workers in two ways. First, a company may be unwilling to give more risky workers a chance at employment at its existing entry-level wages. While in theory it could offer lower wages to new hires, offering new entrants substantially lower wages than existing workers may cause morale and productivity problems among new entrants. Moreover, the company may be legally unable to discriminate against new workers in the benefits package it offers them. Above, we argued that a company may use temporary agency workers in order to offer higher wages to new entrants. However, a company may also use temporary agency workers in order to offer new entrants lower overall compensation.

Second, hiring a risky worker through a temporary agency may lower *f*, the cost of a quit or dismissal. For instance, temporary workers, who are not employees of the client company, are probably less likely than direct-hire employees to sue over a dismissal. In support of this notion, Autor (forthcoming) finds a strong empirical link between the decline of employment-at-will in state law and the growth of temporary agency employment. Additionally, managers often find it difficult to dismiss a worker who displays poor or mediocre performance. Arguably, managers are less likely to offer permanent employment to a poor or mediocre temporary agency worker than they are to fire a similar direct-hire employee. The benefit of using temporary agencies to screen workers for permanent positions, then, is a more productive workforce.

In summary, the use of temporary agency workers to fill a company's vacancies when labor markets are tight may reduce pressure on companies to raise wages to fill these vacancies. In some cases, temporary help agencies are able to recruit qualified candidates by paying them more than

that employers tend to prefer good workers over risky workers in these market conditions.

companies pay regular workers. Here companies are effectively able to practice wage discrimination, paying higher wages to new entrants than to longer tenure employees. This practice occurs when the qualifications for a position are well-defined and easily observed and when shortages of applicants with these qualifications develop at existing wage rates. We argue that this practice is most likely to be associated with high-skilled labor markets, where workers must meet educational or certification requirements to perform the job.

In other cases, temporary help agencies make the use of less qualified, more risky workers acceptable to companies by lowering their wages or lowering the costs of firing them during a probationary period. In this case, temporary help agencies effectively expand the supply of labor and mitigate the need for companies to raise wages to attract more qualified applicants. This practice will most likely occur in cases where f , the cost of quits or dismissals, is high or where p , the probability of turning out to be a good worker, is low. We argue that this practice is most likely to be associated with low-skilled labor markets. In these markets, although most individuals are capable of performing the required tasks with minimal training, employers complain that many lack so-called soft skills, such as honesty, punctuality, and the ability to get along with co-workers. These soft-skills are difficult for employers to observe *a priori*, especially among applicants who lack a good work history.

Distinguishing between Hypotheses in Case Studies

We draw upon case study evidence to shed light on why organizations use and increase their use of temporary help in tight labor markets. If organizations' temporary workload increases in tight labor markets or temporary agencies have a comparative advantage in recruiting temps in tight labor markets, we would expect employers to assign their agency temporaries to work that is intrinsically temporary in nature. If, however, firms use temporary workers because they have difficulty filling

positions in tight labor markets, the work to which agency temporaries are assigned should be of a relatively permanent nature.

If employers substitute temporary agency workers for direct-hire temporaries or new hires simply because these agencies have a comparative advantage recruiting workers in tight labor markets, then we would not expect to observe any systematic differences in the wages of temporary and regular workers with similar experience and credentials. In this scenario, the use of temporary workers in tight labor markets could reduce wage growth and unemployment by virtue of this better matching. However, evidence that agency temporaries earn systematically higher or lower wages than comparable regular workers would suggest wage discrimination and a different or additional mechanism by which temporary agency use results in lower aggregate wage growth and unemployment.⁸

CASE STUDY METHODOLOGY

The evidence we present is based on extensive interviews conducted in six hospitals and five auto suppliers in 1999 and 2000. We sought to represent a variety of organizations within each of the industries we studied. Of the six hospitals, three were in Michigan and three were in North Carolina. These hospitals varied in size from a small Michigan hospital with 450 employees to a large North Carolina hospital with 6,000 employees. Half of the hospitals were public and the other half were private, not-for-profit; one hospital was unionized. Although all of the auto suppliers represented in our case studies are from the Midwest, the suppliers varied across other important dimensions: two were unionized, two were locally owned facilities, one was a branch plant of a larger U.S.

⁸ The hypothesis that temporary agencies result in more efficient matching is the one primarily espoused in Katz and Krueger (1999). However, they also raised the possibility that companies would wage discriminate in favor of temporary agency workers.

company, and two were subsidiaries of foreign-owned companies. We had little or no knowledge about an organization's use of temporary agency workers prior to selecting it for case study.

Within hospitals, we interviewed the human resources director and managers in key functional areas: nursing, clerical and administrative support, laboratory, food services and housekeeping, and clinical specialties (e.g., radiology, physical therapy). In two hospitals, we conducted focus groups of permanent and temporary agency nurses. We also interviewed managers at several temporary agencies that supplied nurses and medical assistants to some of the hospitals we studied.

In the auto supply companies, we focused exclusively on production workers, who account for most of employment in these organizations. We interviewed the human resources director and production managers in each plant. At one facility, we were able to conduct two focus groups with workers: one with regular full-time associates and the other with agency temporaries. We also interviewed the on-site representative of the temporary help agency at the three facilities having such a representative.

We developed a structured set of questions for each type of interview conducted in the two industries. This ensured that a core set of questions was asked in each case study. However, we asked follow-up questions to interviewees' responses to these core questions, which allowed us to get clarification of their answers and gather more information about particularly interesting practices. We recorded and transcribed all of our interviews.

Finally, we collected data from each participating organization on employment levels, hours worked, wages, and benefits of employees for each occupation. Where available, we also collected information on the extent of an organization's use of temporary workers by occupation, the billed rate paid to the temporary agency, and the actual wage paid to the temporary worker.⁹

⁹ A data appendix describing these data and the construction of variables reported in this paper is available from the authors on request.

HOSPITALS' USE OF AGENCY TEMPORARIES IN TIGHT LABOR MARKETS

Pressures on hospitals to curb costs grew during the 1990s, due primarily to declining reimbursement from the federal government and insurance companies and the growth of managed care organizations. Against the backdrop of pressures to curb costs, hospitals faced especially tight labor markets in nursing and other specialized clinical staff (Anderson and Wootton 1991; Buerhaus, Staiger, and Auerbach 2000).

Table 1 presents quantitative information on the occupations for which five of our six hospitals used temporary help agencies.¹⁰ Hospitals used temporary agency workers for both high- and low-skilled occupations. The extent to which agency temporaries were used for various occupations differed across hospitals. Registered nurses represent the largest single occupation in a hospital, and temporary agency RNs were used by all of the hospitals we studied except M2, which was a small community hospital. Although agency RNs generally accounted for a relatively small share of total RN hours worked in each hospital, they accounted for a sizable share of the hospitals' total temporary agency expenditures. Hospitals also used temporary agency workers in some relatively highly skilled non-nursing clinical occupations that were in great demand but short supply, such as radiographers, cardiovascular technologists, respiratory therapists, and technicians to operate CT, MRI, and ultrasound equipment.

In addition, hospitals used temporary help agencies to obtain workers for relatively low-skilled clinical occupations such as nursing assistants and patient sitters. Workers in the latter occupation watch extremely ill or confused patients and call for assistance, when necessary. In all of the hospitals except M2, agency temporaries accounted for between 3 and 7 percent of total hours worked by nursing and medical assistants.

¹⁰ One Michigan hospital only kept records of the total amount of money paid to temporary help agencies. It was not possible to examine their use by occupation.

Finally, hospitals used temporary help agencies to hire workers for relatively low-skilled clerical. Agency clerical workers in "unit administrative support" accounted for a sizable share of total hours worked in this occupation in three of the hospitals studied.

Why Hospitals Use Temporary Help Agency Employees in Nursing and High-Skilled Non-Nursing Positions

Our interviews with managers revealed several situations in which they use agency temporaries in nursing and non-nursing specialties. Variability in workload is one reason why hospitals use temporary help agencies for more highly skilled occupations, such as nurses. Hospitals are required by state codes to maintain particular levels of nurse/patient ratios, for example, yet hospital occupancy rates fluctuate widely. Hence, using temporary help agencies enables hospitals to add nurses as needed to satisfy peaks in demand, and avoid overstaffing during other times. A second and related reason for using temporary staffing is to cover for absences of regular employees, who are sick, on vacation, or on extended leave.

A third reason for using temporary help agencies cited by managers in all of the hospitals in our study is to fill a vacancy while they are recruiting to fill the position on a permanent basis. Managers universally reported a shortage of nurses and workers in some non-nursing specialties, which led to a large number of unfilled vacancies on their staff and a greater demand for agency temporaries to fill these vacancies while they recruit permanent staff. Some hospital managers reported that they explicitly recruited permanent staff from the pool of agency temporaries, while others reported rarely doing so.

Although the hospitals in our sample all used temporary agency personnel to handle an increase in workload or to fill in for staff absences or vacancies in permanent positions, managers in all of the hospitals viewed the use of temporary agency workers in these situations as a measure of last resort. They preferred to use in-house on-call staff or to more quickly fill vacancies with permanent workers. Hospital managers

essentially cited two reasons for preferring in-house staff over agency temporaries: competency and cost. With respect to the first, most nurses and hospital administrators we interviewed were happy with the quality of the temporary agency staff, especially with "traveler" nurses, who typically work in highly specialized areas, such as critical care, and who are placed by national level agencies. However, some hospital administrators complained about the uneven quality of nurses placed by local agencies. Some also felt that agency nurses were less productive than regular staff nurses, but only because of their lack of familiarity with the hospital's organization.

Concern over the high cost of high-skilled temporary agency employees (such as nurses) compared to in-house staff was echoed in our interviews with all of the hospitals. Hospital administrators unanimously believed that the bill rate charged by temp agencies for nurses and non-nurse professionals exceeded the wage and nonwage labor costs associated with comparable in-house staff. The information we were able to obtain on the costs of using in-house versus temporary agency staff in high-skilled occupations supports these assertions. Table 2 shows the average total cost of full-time, in-house staff and the bill rate charged by temporary help agencies, by occupation, for five of the hospitals in our study. In all cases where hospitals use temporary help agencies to fill RN or other highly skilled clinical positions, the hourly bill rate for the temporary agency workers exceeded the average total hourly cost of full-time workers. In most cases the bill rate was substantially higher.

So why did hospitals use temporary agency rather than in-house staff if temporary agency workers were possibly less productive and cost more? The answer given by the hospitals was a national "labor shortage" in nursing and some non-nursing professional occupations. Most hospitals indicated that they tried or were trying to build up their in-house on-call pools and were trying to recruit permanent staff. However, they were unable to recruit sufficient on-call and permanent full-time

employees to meet their staffing needs, *by implication*, at the wages they were offering.

How were temporary help agencies able to recruit employees when the hospitals could not? Evidence from our interviews with hospital and temporary agency administrators and nurses in both Michigan and North Carolina suggests that temporary help agencies recruited nurses and other hospital professionals, quite simply, by paying them more than hospitals did. In the words of a hospital administrator in Michigan, "One reason why temp agencies are able to get nurses and we're not is that they are paying them outrageous dollars that we won't pay."

That the hourly wage of temporary agency nurses and other temporary health care professionals was higher than that of hospital employees seemed to be a fact well-known to hospital administrators and employees. Although it is not clear that the value of the temporaries' wages plus benefits always exceeded the total compensation package received by hospital employees, temporaries' total compensation appeared to be higher in many instances. Traveler nurses and other health care professionals who were placed by a national agency in a hospital for relatively long periods of time earned particularly high salaries. One North Carolina hospital is using traveler temporary help agencies to fill two out of four radiation therapist positions; in one case the traveler had been with the hospital almost a year. When asked why the temporary agency could attract employees when her hospital could not, a supervisor from this hospital replied,

The temp agencies are paying them money, they are paying for their rent, they are paying their food, they're paying their car, they're paying their travel. They earn a lot more . . . and I can't compete with that. The gentleman who has been with us for 11 months now, I tried to offer him a position 9 months ago and I could not compete.

Other hospital administrators also noted the extremely high costs associated with traveler nurses and the fact that these individuals, while highly trained, were earning substantially more than in-house staff.

It appears that even some local agencies, which tend to supply less highly specialized health care professionals than do the traveler agencies, paid wages that exceeded the value of wages and benefits received by hospital personnel in comparable positions. One local temporary help agency in Michigan reported paying \$29 to \$30 per hour to its RNs, which compared to about \$17 per hour that the typical RN received in the hospitals the agency serviced. Even though the temporary agency did not pay benefits to its nurses, the huge wage premium—on the order of 70 percent—exceeded the value of benefits a worker would have received from a hospital. When asked why the temporary agency paid such huge wage differentials, the manager at the temporary agency replied,

Because that's what the market bears. It's very simple. If you look in the paper and read the ads [from other temporary agencies], they are just one after the other, \$2,000 bonus, \$30 an hour. I mean, we just couldn't recruit if we didn't pay that.

She also insisted that temporary help agencies had been paying their nurses large premiums over what hospitals paid for years. According to this same temporary agency manager, the temporary agencies attracted many nurses who had benefits from other sources and thus did not need benefits from their employer. Thus, even if the wage premium paid by the temporary agency does not exceed the value of the benefits offered by hospitals, it is likely to be an attractive employer to those who place a low value on company-provided benefits.

Does a strategy of hiring temporary agency workers at such high cost make sense? In the case of nurses and other professional hospital staff, the use of temporary help agencies effectively becomes a vehicle for hospitals to pay higher wages to quickly fill vacancies without raising the compensation of existing workers. Moreover, hospitals continue to try to hire permanent and in-house on-call staff, thereby using agency

temporaries to buy time to recruit employees at the hospital's lower wage levels.¹¹ All other things equal, such wage discrimination likely lowers a company's overall labor costs.

Could hospitals practice such discrimination themselves without going through an intermediary and paying its overhead charges? Our evidence suggests that temporary help agencies attract many workers who place a high value on wages relative to benefits. ERISA and nondiscrimination clauses in the IRS tax code would likely make it legally difficult for hospitals to exclude certain groups from benefits. Moreover, as argued above, while hospitals legally could offer new permanent employees or direct-hire temporaries higher wages than existing employees, the adverse impacts of such a wage policy on employee morale and productivity would likely cancel out any savings on hourly wage costs.

Do hospitals avoid this adverse effect on morale by hiring through a third party? Our evidence on this issue from interviews with hospital administrators, nurses, and temporary agency managers is mixed. For instance, one hospital in North Carolina experienced serious morale problems among its nursing staff as a result of the wage differentials. In response to a question about whether the wage differential between temporary and regular nurses causes problems, an administrator in this hospital replied,

Yes, big time. It becomes a real irritant—a tremendous irritant for our nurses. They're saying, 'Pay us the money, you are paying all this money out to a traveler, why aren't you paying us and giving us retention bonuses and getting us to stay? ... And

¹¹ Certainly, temporary agency and in-house staff positions are not homogeneous, with the latter offering more regular employment, and possibly, in the case of regular workers, better benefits. Job matching models, cited above, would predict that the amount of time it takes for a hospital to fill a job vacancy would be inversely related to the wage level and the size of the wage gap between in-house and temporary agency positions.

if the hospital can find money for travelers, they could find money for me.'

In other hospitals, resentment among regular nurses over the higher wages that temporaries made was mitigated by the fact that temporary nurses eased pressures on them to work overtime and unpopular shifts. As expressed by a hospital administrator in Michigan,

You know, there's always resentment when people are working side by side with someone they know is making more money than them for the same job. But by the same token, if the temps weren't here, their vacations would be canceled ... they are doing the job that you didn't want to do. Remember, you could have had these hours and you didn't want them, because they are always offered to the staff first. If you continue to do that kind of education, then I think there is less resentment...

An administrator in another North Carolina hospital expressed few morale problems in using temporary nurses, in part because the regular nurses were "thrilled to have the help." This administrator also suggested that regular nurses might not be fully informed about the wage differentials: "I don't know if they [temp nurses] are trained or what, but they've got enough sense not to sit around and brag about how much money they make." In interviews with other hospitals, we found that although hospital administrators and regular nurses generally knew that temporary nurses earned more money than regular staff, they often were uncertain as to how much more.

Thus, while hospitals cannot fully avoid morale problems associated with wage differentials, using a third-party intermediary to pay higher wages to new workers likely mitigates the problem. Regular staff may not blame the hospital for the wage differential, since the hospital does not directly determine the wages of temporaries. Moreover, regular staff members are likely to be less informed about the wages of temporaries than they are about other employees, and hence not focus on this issue.

In summary, we must emphasize that in no case did hospital administrators actually say that they use temporary agencies to avoid raising wages of regular staff. Instead, what they said was that they could not fill vacancies fast enough and that they "had" to use temporary staff to fill in while they tried to recruit permanent employees or on-call staff. Their alternative was to raise wages to attract nurses and other professional staff more quickly, an alternative that hospital administrators generally do not view as viable, perhaps given the pressures they faced from HMOs and Medicare reform to lower costs. Given that hospital administrators tended to view the wages they offered nurses and other professional staff as relatively fixed, they indeed are constrained in their ability to hire new staff. They were able to relieve these constraints by using temporary staff, whose wages were more responsive to market forces. What we argue is that by using temporary agencies to fill nursing and other skilled positions, hospitals were effectively introducing a two-tiered compensation system, and that this was likely a cost-effective strategy.

The evidence from our case studies in hospitals is consistent with wage growth patterns of nurses. Both nominal and real wages of RNs rose slowly in the 1990s compared to the 1980s. From the National Sample Survey of Registered Nurses, average nominal earnings of full-time registered nurses rose at a rate of 6.5 percent from 1980 to 1992, while they rose at a rate of just 2.7 percent from 1992 to 2000. Moreover, while real earnings for full-time RNs increased at a rate of 2.4 percent from 1980 to 1992, they rose at a rate of just 0.1 percent from 1992 to 2000. The stagnant real wage growth for RNs during the 1990s is particularly surprising given reports of a severe shortage of RNs in many areas of the country. Our case study evidence suggests that use of temporary agency nurses during the 1990s is one explanation for the stagnant real wage growth. Although temporary agency RNs in the hospitals we studied comprised a small share of the RN workforce, they

arguably had an important effect on wage growth by relieving pressures on these hospitals to raise wages for their employees.

Why Hospitals Use Temporary Help Agencies in Low-Skilled Occupations

Besides nurses and medical specialists, hospitals use a large number of temporaries in nursing and medical assistant positions and in clerical positions (table 1). Most temporary agency workers in the former category are patient sitters. The use of patient sitters arose because of regulations prohibiting hospitals from physically restraining patients. Hospital administrators believe that the need for patient sitters is too variable and unpredictable to warrant hiring their own staff in this capacity.

It was unclear from our interviews why hospitals chose to use temporary agencies in lieu of forming their own on-call pools to handle their need for patient sitters. However, hospitals reported difficulty maintaining on-call pools for other occupations in the current economic environment, and it is likely that they would have had difficulty maintaining an on-call pool for patient sitters too. Temporary agencies can offer more steady employment by pooling temporary assignments across companies and thus have a comparative advantage in recruiting workers, especially in tight labor markets.

Three of the hospitals we studied also used relatively large numbers of temporary agency workers in low-level clerical positions. Two of these used clerical agency temporaries to handle one-time special projects. The third hospital, M2, relied extensively on temporary agency clerical help because it was unable to recruit and retain sufficient regular staff. It was a small regional hospital paying lower wages than its competitors, and it used temporary agency workers to fill vacancies while it continued to try to recruit permanent staff.

Comparison of the total hourly cost of full-time workers and the hourly billed rate for temporary workers is quite different for low-skilled clinical and clerical workers than for RNs and other high-skilled clinical

workers (table 2). Whereas the billed hourly rate for RNs hired through temporary agencies was clearly higher than the total hourly cost of full-time RN hospital staff, the billed hourly rate for agency workers in low-skilled clinical positions was only slightly higher than the average total hourly cost of full-time workers. The billed hourly rate for agency workers in clerical positions was actually lower than the total hourly cost of regular full-time workers in these positions in four of the five hospitals. Although we do not know exactly how the hourly wages of temporary agency workers in these lower-skilled clinical and clerical positions compared to those of regular hospital workers, we may infer that these temporary workers did not earn huge wage premiums enjoyed by temporary agency RNs and other high-skilled workers, and by implication, the supply relative to demand was greater for workers in these low-skilled positions than for workers in high-skilled positions. As is discussed further below, it is possible that temporary help agencies were effectively expanding the supply of workers for low-skilled positions by recruiting "lower quality" or more risky workers to fill these positions.

In one hospital, M2, the bill rate for clerical temporaries was higher than the total average cost of full-time workers in those positions. This was the hospital that paid relatively low wages and used temporary help to fill vacancies while it continued to recruit permanent clerical staff. As was argued in the case of high-skilled clinical staff, a strategy of paying a high premium to temporary workers to fill in while the hospital recruited permanent staff at relatively low wages may well have been a cost-minimizing one.

AUTO SUPPLIERS' USE OF AGENCY TEMPORARIES IN TIGHT LABOR MARKETS

Like hospitals, auto suppliers have faced considerable pressure to lower labor costs. Although the auto industry experienced record sales in the late 1990s and 2000, these volumes were reached with generous

incentive packages that depressed profits. To increase revenues, auto assemblers pressed their suppliers to lower their costs. At the same time that they were under pressure to reduce costs, first-tier auto suppliers faced tight labor markets and had difficulty recruiting and retaining workers. Based on our case study evidence, we argue that auto suppliers used agency temporaries to help lower labor costs and to screen workers for permanent jobs.

Table 3 summarizes some of the characteristics of the auto supply plants in our study and the extent to which temporary agency workers were used in production.¹² Two of the plants were unionized. In one of these, the union contract prohibited the use of temporary agency workers, while in the other, the union contract strictly limited the use of temporary agency workers. Temporary agency workers were used regularly in production in the three nonunion plants. In two of these plants, agency temporaries comprised over 20 percent of production employment at the time of our interviews.

Most of the production positions in these plants were low to semiskilled, requiring one to three days of informal on-the-job training. At the time of our interviews, production workers had been working long hours for the past several years, and the plants had been producing at or above their designed plant capacity. The unionized plants had exhausted their "call back" lists of laid-off union workers. Turnover and absentee rates had been on the rise. All of the human resources directors reported difficulty recruiting and retaining good workers in the strong economic environment.

The human resources directors and plant managers we interviewed gave several reasons for using temporary agency workers. The two most common reasons were to accommodate temporary increases in workload

¹² Most temporary workers used in these plants were assigned to production, and we focus exclusively on temporary workers in production in this paper.

and to screen workers for permanent positions. One company also used temporary workers to buffer regular workers in the event of a recession.

Buffering Core Workers

Company C was strongly committed to not laying off any permanent employees. According to the human resources director at this plant, this was the original rationale for using agency temporaries. They believed that they needed to maintain about 10 percent of the production workforce in temporary positions to avoid laying off employees in an economic downturn. At the time of our interviews, the fraction of their production workforce coming from temporary help agencies was more than double their 10 percent target, indicating that other factors were also important in determining their use of agency help.

Accommodating Increases in Workload

Three of the companies used agency temporaries to meet sudden increases in production (A, B, and E, table 3). Why did these companies choose to use agency temporaries rather than hire temporary workers directly, as was done by the unionized plant whose union contract prohibited the use of agency temporaries under any circumstances? In fact, traditionally these companies had hired on-call workers to meet such short-term needs. However, given the extremely tight labor markets and the fact that everyone on their call-back lists desiring employment had long since found it, human resources directors had substituted agency temporaries for on-call workers.

Above, we outlined several reasons why companies might find it more attractive to use agency temporaries in lieu of direct-hire temporaries in tight labor markets. Because agencies pool job orders across firms, they may offer more steady employment or better match the hours a worker desires than a single firm could offer to workers in an in-house on-call pool. This gives temporary agencies a comparative advantage in recruiting workers for temporary assignments, especially in

tight labor markets. In addition, when labor markets are slack, companies simply call workers off a layoff list. When labor markets are tight, companies need to considerably spend resources recruiting and screening workers, and temp agencies, which enjoy economies of scale, may be able recruit and screen more cheaply.

Finally, in tight labor markets, companies are under pressure to raise wages to attract temporary as well as permanent new hires. As discussed in the following section, we argue that the use of agency temporaries relieved the pressure on companies to raise wages by facilitating the use of riskier workers.

Screening Workers for Permanent Positions

In all the firms we interviewed, agency temporaries assigned to limited production runs could apply for permanent positions on other production lines when their temporary assignments were complete. Moreover, all of the nonunion auto plants in our study explicitly used temporary help agencies to screen workers for permanent positions. In two of these plants (Companies B and C), new production workers were being recruited exclusively through temporary help agencies. The other company (Company A) recruited through a combination of direct hires and temporary agencies. Specifically, this company hired applicants with good work histories in manufacturing directly; more "risky" applicants were told they must go through a temporary agency to gain employment at the plant.

There was a wide variation across plants in the length of time it took for a temporary worker to be hired on as a permanent employee. In the union plant, temporary agency workers had to be either dismissed or hired on a permanent basis after 30 days. At the other extreme, it was common for agency temporaries to wait for a year before being offered a permanent job at Company C.

Production supervisors spoke in unison regarding the benefits of screening potential workers through temporary employment agencies to

lower their hiring risks. In tight labor conditions, many entry-level workers have criminal records, a spotty work history, and little or no experience in a manufacturing setting. In addition, the work activity at several of these facilities required teamwork and good communication skills. It was important for production supervisors to select workers that could "fit" into their production teams. As put by one supervisor,

I have the opportunity to observe this person over a period of time. I don't have just a half-hour snapshot to go by as in an interview. I can get to know the person, get to know their background a little bit, get to know what their behaviors are, what motivates them, what possible problem areas I might have with the individual.

The key question is why did these companies prefer to screen workers at an arm's length, through a temporary help agency, rather than hire workers directly for a probationary period, as had been done traditionally? We explored this issue in detail in our interviews. One hypothesis is that companies believe that they are less likely to be sued by dismissed workers if the workers are the employees of a temporary help agency (Autor forthcoming). None of the managers interviewed in our case studies, however, felt that concern over lawsuits affected their companies' decisions to use temporary agency workers.

Another hypothesis is that managers find it difficult to fire workers on probation. By using temporary agencies, managers may pass the unpleasant task of firing workers who display poor or mediocre performance on to the temporary help agency or, at the end of a temporary worker's contract, choose not to hire that worker on a permanent basis. One manager interviewed in our study indicated that this was a substantial advantage of screening workers through temporary help agencies:

There's a benefit [in using temp agency or contract workers] in the fact that it's a little bit easier to dismiss a contract employee ... For whatever reason they're not working out, the fit's not

right, they're not making number, or their attendance is poor, I can call [the agency representative] and say, 'End their assignment.' You can give them reasons why, you don't really have to give them reasons why ... I mean, people in general, they hate to end people's jobs. I mean, that's not a pleasant thing to do ... [For workers hired directly on probation] you can still end their employment, but it's not a very frequent thing that happens ... it's like, okay, now I have to face the person and say you didn't work out.

In this more subtle way, the use of agency temporaries may lower the costs of firing workers and result in a more productive workforce.

A third hypothesis for why companies screen through temporary help agencies is to lower the wages of workers during their probationary period. As outlined above, in tight labor markets companies have more difficulty recruiting qualified workers at any given wage rate. Companies could attract more qualified applicants by raising their wage rates, but they would need to raise the wage for new as well as existing workers. Alternatively, they could lower their standards and hire less qualified workers, offering them lower wages and fewer benefits. However, companies may be constrained in lowering compensation by internal wage scales or benefits regulations. All managers reported using temporary agencies because of difficulty finding safe hires, those with good work histories and manufacturing experience.

The cost data we collected from the auto suppliers are consistent with the hypothesis that companies screen new hires through agencies in part to lower wage costs during the probationary period. Table 4 reports data on the hourly wage made by temporaries, the billed hourly rate charged by the temporary help agency, the starting wage offered to permanent workers, and the total hourly wage cost for permanent workers, as available, in the five plants studied. In sharp contrast to the situation of hospital nurses, the hourly wage of temporary workers in the auto industry was lower than the starting wage of permanent workers in all of the nonunion plants. In the union plant, the hourly wage of regular and temporary agency workers was the same, by union contract.

Moreover, for all four of the plants using agency temporaries, the temporary agency bill rate was lower than the total hourly cost of a permanent hire.¹³ Three of the four companies using agency temporaries specifically acknowledged the cost savings in the interviews. In Company C, the cost savings were particularly striking. According to the company's accounting department, a five-percentage-point reduction in the share of temporary agency workers would increase labor costs by \$1 million over the course of a year. At the two unionized companies, the unions opposed the use of agency temporaries on the grounds that the company would circumvent union wages and benefits by using cheaper temporary help. The numbers from our case studies support this concern. Human resources directors at both unionized companies indicated that they would like to use or increase their use of agency temporaries, but were constrained by the union contract.

In sum, the use of temporary help agencies reduced pressures on auto suppliers to raise wages in tight labor markets by lowering the cost of using more risky workers, and thereby effectively expanding potential labor supply.

¹³ We compare the agency bill rate with the total hourly labor cost, including benefits, of regular workers. Workers hired directly by the company typically do not receive benefits provided voluntarily by companies (e.g., health insurance, pension, life insurance) during their probationary period. Counting only mandatory benefit costs (e.g., social security contributions, unemployment insurance, workers' compensation), the hourly wage costs of new hires is still clearly greater than the hourly bill rate of temporaries for the three nonunion companies. Moreover, when temporaries are hired, they are put on probation. Thus, hiring workers through a temporary agency becomes a way of extending the period without these benefits. This effect of delaying benefits is clearest in Company A, which hires workers with good work histories directly on probation, and more risky workers first through a temp agency and then on probation.

Morale and Productivity Issues

The fact that the hourly costs of agency temporaries are less than those of direct hires does not necessarily imply that it is cost-effective for a company to use agency temporaries. Agency temporaries might be less productive than those recruited directly by the company if the temporary help agency attracts a lower quality worker than the company could attract itself or if being a temporary worker lowers a worker's morale, perhaps because of the lower compensation.

However, the use of temporary agencies did not seem to be a cause of the poor quality of applicants, but rather a response to the shortage of qualified applicants at the wages companies were offering. In Company A, for instance, good applicants were hired directly by the company on probation, whereas applicants considered to be a high risk were referred to the temporary agency that supplied the company. Managers at all of the auto suppliers expressed alarm at the decline in the quality of the applicants for production jobs, and they attributed this problem to the tight labor market.

Concern that temporary workers were less committed to the organization and therefore were less productive or more likely to quit than direct hires was limited at three of the four auto supply companies using agency temporaries. At these companies, the wage differentials between regular and temporary agency workers were considerably smaller and the duration of temporary employment much shorter than at the other company, Company C.

Company C, a foreign-owned subsidiary with a strong no-layoff commitment to its regular employees, paid high wages and benefits relative to its competitors. With this strategy, it hoped to attract the best employees and avoid unionization. Its original rationale for hiring temporary workers was to buffer its regular employees in the event of a slowdown. However, the company expanded dramatically during the 1990s and began using temporary agencies to rapidly fill vacancies. Given that the hourly wage cost of agency temporaries was dramatically

lower than that of regular employees, company executives had been reluctant to reduce temporary agency employment. The company hired exclusively through the agency, and temporaries had to wait six months to a year or more before they knew whether or not they would be offered a permanent position.

Focus groups with regular associates and agency temporaries at this plant revealed that the temporaries felt the system, in which they were paid substantially lower wages for a long period of time before being offered a permanent job, was unfair. However, this resentment did not appear to adversely affect their productivity: they knew that they had to be extremely productive in order to gain permanent employment at the facility. The use of agency temporaries appears to have been a fairly effective way for this company to lower labor costs for new hires, thereby steepening the wage tenure profile and capturing rents from workers.

The one negative consequence on productivity from the recruitment policies at Company C appears to have come from high turnover. Many good workers grew tired of waiting for the offer of permanent employment and quit. Whether the adverse productivity effects from this high turnover outweighed the cost savings associated with lower wages was being debated internally at this company.

Conclusion

The share of employment in temporary help agencies grew steadily during the expansion of the 1990s. In this paper, we presented case study evidence for why employers use and even increase their use of temporary help in tight labor markets.

In both the hospital and the auto supply industries, we found evidence that companies had increased their use of temporary agencies to fill traditional, temporary positions. In the auto supply industry, at a time when there was a general increase in demand for temporary workers due to special production runs, companies were substituting agency temporaries for on-call workers or direct-hire temporaries. Similarly, we

found substantial evidence that hospitals had substituted agency temporaries for on-call workers.

Moreover, employers in both industries made extensive use of agency temporaries to fill permanent positions. Specifically, employers used agency temporaries to buy additional time to recruit permanent workers, and, especially in the auto supply industry, recruited permanent employees from the ranks of the agency temporaries.

Especially in tight labor markets, temporary agencies likely enjoy economies-of-scale in recruiting and screening workers, and that may be one reason why companies substitute temp agency workers for on-call workers and direct-hire recruits. By increasing the efficiency of job matches, temp help agencies may reduce pressure on companies to raise wages in tight labor markets.

However, we found evidence of substantial wage differentials between temp agency workers on the one hand, and on-call workers and direct-hire recruits on the other, indicating other or additional reasons why companies substitute agency temporaries for on-call workers and direct-hire recruits in tight labor markets. In hospitals, evidence from our case studies strongly suggests that temporary help agencies were able to recruit nurses and other specialized clinical staff by paying them substantially more than they would earn at the hospital. We argue that, in effect, by using temporary agency help, hospitals were able to raise the wages of new entrants without raising the wages of existing workers.

In the auto supply industry, companies were using temporary agencies primarily to fill vacancies in low-skilled production positions. Moreover, the nonunion companies hired all or many of their new workers from the ranks of the agency temporaries. Managers in all of the auto suppliers we interviewed complained about the declining quality of the applicants for new jobs. Rather than raising wages and trying to attract workers with good employment histories away from other companies, the companies were using temporary help agencies to try out workers who, at least on average, were deemed more risky. We argue

that, in effect, temporary help agencies facilitate companies' use of riskier workers by making it easier to dismiss them and by lowering their wages. In turn, temporary help agencies effectively expand the supply of labor and mitigate the need for companies to raise wages for new and existing workers. Therefore, in the auto supply industry, as in the hospital industry, the wage discrimination associated with the use of agency temporaries should result in lower overall wage growth and higher employment levels. However, the mechanism by which this occurs is very different in the two industries.

Katz and Krueger (1999) presented evidence that the Beveridge curve, relating the unemployment rate and the vacancy rate, had shifted inward in the 1990s, and argued that hypotheses about the low wage growth and unemployment in the 1990s must be consistent with this fact. If temporary agencies increase the efficiency of job matches, as Katz and Krueger suggest and as is consistent with some of our evidence, then the growth of temporary help would result in an inward shift of the Beveridge curve. It is noteworthy that companies' extensive use of temporary help to fill positions while recruiting permanent hires, which we found in our case studies, is also consistent with an inward shift of the Beveridge curve. However, in the latter case, an inward shift of the Beveridge curve would reflect something of an accounting phenomenon: companies register vacancies but have "temporarily" filled them, thereby reducing unemployment.

We interviewed a wide range of organizations within the hospital and auto supply industries. The consistency of the evidence we found within each industry makes us confident that we have accurately depicted the reasons organizations in these two industries use temporary help in tight labor markets. Of course, whether one can generalize from the results of these case studies to the aggregate economy is an open question. Nevertheless, the evidence from our case studies provides insights about the use of temporary help in tight labor markets and their potential

influence on wage growth that can be tested further in case studies of other industries or with aggregate data.

REFERENCES

- Abraham, Katharine. 1990. "Restructuring the Employment Relationship: The Growth of Market-Mediated Work Arrangements." In *New Developments in the Labor Market: Toward a New Institutional Paradigm*, K.G. Abraham and R.B. McKersie, eds. Cambridge, Massachusetts: MIT Press, pp. 85-120.
- Anderson, Kay, and Barbara Wootton. 1991. "Changes in Hospital Staffing Patterns." *Monthly Labor Review* (3): 9.
- Autor, David. Forthcoming. "Outsourcing at Will: Unjust Dismissal Doctrine and the Growth of Temporary Help Employment." *Journal of Labor Economics*.
- Buerhaus, Peter I., Douglas O. Staiger, and David I. Auerbach. 2000. "Implications of an Aging Registered Nurse Workforce." *Journal of the American Medical Association* (283): 2948-2954.
- Card, David, and Alan Krueger. 1995. *Myth and Measurement: The New Economics of the Minimum Wage*. Princeton, New Jersey: Princeton University Press.
- Cohany, Sharon R. 1998. "Workers in Alternative Employment Arrangements: A Second Look." *Monthly Labor Review* 121(11): 3-21.
- Davis-Blake, Alison, and Brian Uzzi. 1993. "Determinants of Employment Externalization: A Study of Temporary Workers and Independent Contractors." *Administrative Science Quarterly* 38(2): 195-223.
- Houseman, Susan. 1997. *Temporary, Part-Time, and Contract Employment in the United States: A Report on the W.E. Upjohn Institute's Employer Survey on Flexible Staffing Policies*. Report prepared for the U.S. Department of Labor, Office of the Assistant Secretary for Planning, June.
- Houseman, Susan. 2001. "Why Employers Use Flexible Staffing Arrangements: Evidence from an Employer Survey." *Industrial and Labor Relations Review* 55(1): 149-170.

- Kalleberg, Arne L., Jeremy Reynolds, and Peter V. Marsden. 1999. "Externalizing Employment: Flexible Staffing Arrangements in U.S. Organizations." Unpublished paper, University of North Carolina at Chapel Hill.
- Katz, Lawrence F., and Alan B. Krueger. 1999. "The High Pressure U.S. Labor Market of the 1990s." *Brookings Papers on Economic Activity* 1: 1-65.
- Mangum, G., D. Mayall, and K. Nelson. 1985. "The Temporary Help Industry: A Response to the Dual Internal Labor Market." *Industrial and Labor Relations Review* 38: 599-611.
- Peck, Jamie, and N. Theodore. 1998. "The Business of Contingent Work: Growth and Restructuring in Chicago's Temporary Employment Industry." *Work, Employment and Society* 12(4): 655-674.

Data Appendix

This appendix describes the establishment-level data collected from hospitals and auto suppliers participating in our case studies, which underlie tables 1–4.

Hospitals

We have individual-level data on hospital employees for five of the six hospitals participating in our study. These data show the individual's occupation, hours scheduled or actually worked during the year, and wage rate. We received information on average nonwage costs for all hospital employees from the human resources department of each hospital. These costs include mandatory benefits and taxes (unemployment insurance, medicare/FICA, workers' compensation) and voluntary benefit costs (e.g., paid time off, health insurance, retirement plan, disability insurance, life insurance). To estimate average total hourly labor costs, we employed the average nonwage hourly mark-up for the hospital to the average hourly wage of workers within an occupation, calculated from the individual-level data. These mark-ups ranged from 30 to 44 percent.

We also have information on the amount of temporary help used in each of these hospitals for at least a year's duration during calendar years 1998–1999. However, the format and quality of these data varies greatly from hospital to hospital.

- For two hospitals (M2 and NC1), we have individual data: for each temp assigned to the hospital during a calendar year period, we have the occupation, bill rate, and hours billed or hours paid.
- For M1, we received monthly invoices from specific temporary agencies, which included the hours these agencies were billing for. The hospital informed us which agencies supplied which types of workers (e.g., RNs, patient sitters). We used this information to estimate the billed rate, the hours worked, and expenditures paid, by occupation.
- For NC2, we received information on all expenses paid for temporary help workers over the course of a year by cost center (hospital department). We then made educated guesses about the occupation or mix of occupations of the temp workers assigned to this department (e.g., the phlebotomy services department used

phlebotomists; the ambulatory care data center used clerical workers, intensive care used primarily RNs). We used information from interviews on temporary agency bill rates by occupation to estimate hours worked by temps by occupation. For occupations for which we did not get interview information on temp agency bill rates, we assumed that the bill rate was the same (or an average) of the rates charged to our other two North Carolina hospitals.

- For NC3, we were given the dollar amount spent by occupational category and the billed rate paid by agency and occupation. We used these pieces of information to compute the total hours worked by temporaries in an occupation and, where more than one temporary agency supplied a particular occupation to the hospital, an average bill rate by occupation.

Auto Suppliers

Establishment-level data on auto suppliers was supplied by human resources directors at the plants we studied. The total and production employment figures refer to employment at the time of the interview; temp agency employment figures also refer to employment at the time or typical ranges the plant experienced in recent months. The total hourly costs of production workers were computed as the starting wage plus a mark-up of average nonwage costs for production workers at the plant. These costs included mandatory benefits and taxes and voluntary benefits costs.

Table 1 Use of Temporary Agency Help in Hospitals, by Occupation

Hospital	Occupation	Within Occupations, % hours worked by temps	Distribution of temp hours (%)	Distribution of temp bill (%)
M1	High-skilled clinical		35	59
	RN	2	27	41
	Pharmacists (everyone in Ph)	6	2	3
	Physical therapists	3	6	15
	Low-skilled clinical			
	Nursing & medical assistants	5	35	25
	Clerical/Administrative			
	Unit administrative support	7	30	17
M2	Clerical/Administrative		100	100
	Patient accounts	5	10	11
	Admissions workers	2	10	9
	Unit administrative support	5	80	80
NC1	High-skilled clinical		22	43
	RN	0.7	10	20
	Imaging tech	3	4	10
	LPN	6	8	13
	Low-skilled clinical			
	Nursing & medical assistants	4	20	17
	Clerical/Administrative			
	Unit administrative support	8	58	39

Table 1 (Continued)

Hospital	Occupation	Within Occupations, % hours worked by temps	Distribution of temp hours (%)	Distribution of temp bill (%)
NC2 ¹	High-skilled clinical		80	92
	Certified RN anesthetist	2	0.6	1
	RN	4	42	49
	Imaging tech	26	35	40
	Low-skilled clinical		17	7
	Nursing & medical assistants	7	14	6
	Clerical/Administrative			
	Unit administrative support	0.4	3	1
NC3	High-skilled clinical			
	RN	0.1	7	19
	Low-skilled clinical		81	71
	Phlebotomists	0.7	1	1
	Nursing & medical assistants	2	80	70
	Clerical/Administrative			
	Unit administrative support	0.3	12	10

¹ Occupations that account for less than 1 percent of the hospital's expenditures on temporary agencies are not listed separately but are included in hospital subtotals in columns 2 and 3.

Table 2 Comparison of Hourly Cost of Full-Time Employees and Agency Temporaries in Hospitals, by Occupation

		Average total cost full-time (\$)	Bill rate temporaries (\$)	Percentage difference
Hospital	Occupation			
M1	High-skilled clinical			
	RN	28	34	24
	Pharmacists (everyone in Ph)	27	27	3
	Physical therapists	26	54	110
	Low-skilled clinical			
	Nursing & medical assistants	13	16	17
	Clerical/Administrative			
	Unit administrative support	14	13	-10
M2	Clerical/Administrative			
	Patient accounts	15	17	11
	Admissions workers	14	14	-3
	Unit administrative support	14	16	14

Table 2 (Continued)

		Average total cost full-time (\$)	Bill rate temporaries (\$)	Percentage difference
Hospital	Occupation			
NC1	High-skilled clinical			
	RN	24	34	41
	Imaging tech	22	36	62
	LPN	17	28	69
	Low-skilled clinical			
	Nursing & medical assistants	12	15	22
	Clerical/Administrative			
	Unit administrative support	13	11	-14
NC2 ¹	High-skilled clinical			
	Certified RN anesthetist	55	60	9
	RN	28	40	44
	Imaging tech	24	40	69
	Low-skilled clinical			
	Nursing & medical assistants	12	15	22
	Clerical/Administrative			
	Unit administrative support	16	12	-29

Table 2 (Continued)

		Average total cost full-time (\$)	Bill rate temporaries (\$)	Percentage difference
Hospital	Occupation			
NC3	High-skilled clinical			
	RN	26	36	38
	Low-skilled clinical			
	Phlebotomists	15	17	12
	Nursing & medical assistants	14	12	-10
	Clerical/Administrative			
	Unit administrative support	15	12	-21

¹ Occupations that account for less than 1 percent of the hospital's expenditures on temporary agencies are not listed. The figures in the first two columns were rounded to the nearest dollar. The percentage differences reported in the third column were computed prior to rounding.

Table 3 Use of Temporary Agency Employment among Auto Suppliers

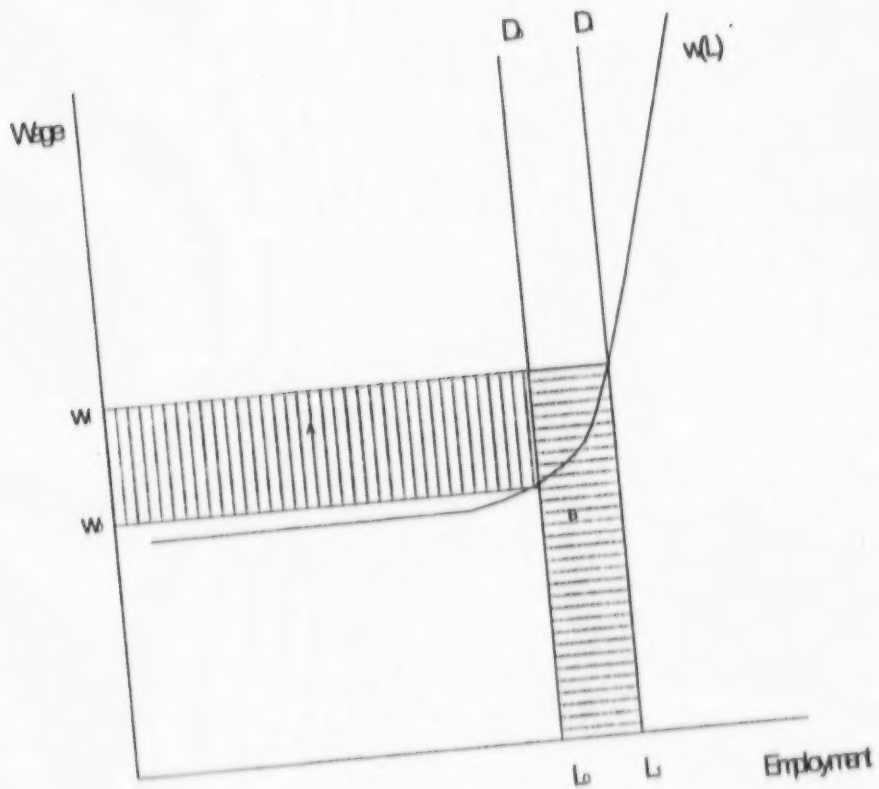
Company	Product	Organization type	Union	All employees	Production employees	Temporary employees	
						Number	As percent of all production employment
A	Technically adverse interior and exterior equipment	Locally owned	No	1,400	1,000	30-60	5-6
B	Chassis systems	European-owned branch plant	No	750	450	125	28
C	Heat exchange component parts	Japanese subsidiary	No	2,100	1,521	348	23-25
D	Drive shafts	Branch plant of large U.S. owned company	Yes	900	550	0	0
E	Auto body components	Locally owned single plant company	Yes	430	320	0-30 ¹	0-9

¹ This plant recently laid off all 30 of its temporary workers.

Table 4 Cost Comparisons of Permanent and Temporary Workers

Comp any	Hourly wage temporaries (\$)	Bill rate temporaries (\$)	Starting wage permanent workers (\$)	Total hourly costs permanent workers (\$)
A	7.90	10.90	10.60	13.78
B	8.00	10.40	9.62	12.51
C	7.50	10.88	13.28	18.22
D	n/a	n/a	15.51	30.51
E	12.35	16.92	12.35	22.85

Figure 1



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